REMARKS

Applicants appreciate the Examiner's thorough examination of the subject application and request reconsideration of the subject application based on the foregoing amendments and the following remarks.

Claims 18 and 20-25 are pending in the subject application. Claims 17 and 19 are withdrawn from consideration as the result of an Examiner's earlier restriction requirement. In view of the Examiner's earlier restriction requirement, Applicants reserves the right to present the above-identified withdrawn claims in a divisional application.

Claims 18 and 20-25 stand rejected under 35 U.S.C. §102 and /or 35 U.S.C. §103. Also, claims 18 and 20-25 stand rejected under the judicially created doctrine of obviousness-type double patenting.

NON-STATUTORY/ OBVIOUSNESS DOUBLE PATENTING REJECTION(S)

Claims 18 and 20-25 stand rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claim 12 of U.S. Patent No. 6,352,765 (Iwata '765). The Examiner further provided the reasoning why there was no statutory bar against this double patenting rejection.

In Applicants' Response dated July 28, 2003, Applicants had indicated that it was deferring submission of a terminal disclaimer and/ or addressing the within double patenting rejection until, and as when claim 18 was indicated as containing allowable subject matter. However, in the interests of advancing prosecution of the subject application, Applicants have enclosed herewith a

terminal disclaimer by a registered attorney of record that complies with 37 C.F.R. 1.321(b) and 1.321 (c). The enclosed also indicates that the assignee of record commonly owns both the identified patent and subject patent application.

Because a timely filed terminal disclaimer executed by an attorney of record overcomes an actual rejection based on a non-statutory double patenting, it is respectfully submitted that the rejection has been overcome and the above-identified claims are allowable. As such withdrawal of the obviousness type double patenting rejection is respectfully requested.

35 U.S.C. §102 REJECTIONS

Claims 18 and 20-25 stand rejected under 35 U.S.C. §102 as being anticipated for the reasons provided on pages 6-9 of the above-referenced Office Action. The following addresses the specific rejections provided in the above-referenced Office Action.

Aratani

Claims 18 and 20-24 stand rejected under 35 U.S.C. §102(a) as being anticipated by Aranati [WO99/39342]. The Office Action also makes reference to USP 6,573,957 as being the US equivalent of the PCT publication. In the Office Action it is asserted that the claimed functional limitations are deemed to be inherent characteristics of the prior art since the prior art is substantially identical in composition and / or structure. It is further noted that Figure 2 of the reference shows that the domain wall of the medium does not enter the light beam. Applicants respectfully traverse as discussed below as well as respectfully disagreeing with the characterization

of what is disclosed and taught in the cited reference. All specific references hereinafter to Aranti are to the US patent cited as being the equivalent of the cited PCT publication.

Applicants claim, claim 18, a magneto-optical recording medium comprising at least a first magnetic layer, a second magnetic layer and a third magnetic layer, which are layered in this order. The first magnetic layer of the medium is formed of a perpendicularly magnetized film having a relatively small wall coercivity and a relatively large wall mobility compared with the third magnetic layer in the vicinity of a predetermined temperature. In addition, the first magnetic layer also is composed such that, when a light beam whose intensity is controlled to be a predetermined intensity for reproducing a signal is emitted onto the magneto-optical recording medium while the light beam being moved relatively with respect to the magneto-optical recording medium, the medium is characterized as having a larger magnetic wall coercivity at a rear part of the light beam spot than a front part of the light beam spot and so as to restrict movement of a domain wall located beyond the light beam spot rear part.

In contrast to the present invention, Aranti describes a magneto-optical recording medium that is made up of four (4) magnetic layers; (1) a first magnetic layer 11 (the displacement or DS layer); (2) a second magnetic layer 12 (YS layer); (3) a third magnetic layer 13 (the switch or SW layer); and (4) a fourth magnetic layer 14 (memory or MM layer). See Figure 1 and col. 3, lines 46-56 of Aranti.

It is clear from the discussion in Aranti that the first magnetic layer 11 is not composed so as to prevent movement of domain walls from the front or rear portion. As disclosed and taught in Aranti the YS layer has a function of inhibiting movement of the domain walls of the DS layer 11

in a direction toward the center of the beam spot at a position in the rear position in the direction in which the reproducing light is moved. See col. 4, lines 51-54 of Aranti. Aranti also provides that to prevent the so-called ghost phenomenon, that is seen with layers composed of three magnetic layers, the invention in Aranti is structured such that the YS layer 12 is inserted between the DS layer 11 and the SW layer 13. See col. 8, line 17 through col. 9, line 10. The last sentence of the Abstract in Aranti also provides that to inhibit movement of the domain walls of the magnetic layer adjacent to the portion irradiated with the reproducing light, it is required to insert a magnetic layer having a predetermined magnetic characteristic into a space between a displacement layer (the first magnetic layer) and the switch layer (the third magnetic layer).

It is clear from the foregoing that Applicants claim a medium composed of three layers where the first magnetic layer is composed so as to have certain characteristics or functions. It also is clear from the foregoing remarks, that Aranti discloses a medium composed of four layers that are differently constituted.

As such, it can be hardly said that Aranti is substantially identical in composition and structure as is the medium as is set forth in claim 18. As such, it can be hardly said that the medium disclosed in Aranti inherently discloses the claimed limitations as is set forth in claim 18.

As each of claims 20-24 depend directly or ultimately from claim 18, it is submitted that at least because of their dependency from a claim considered to be allowable, each of claims 20-24 also are considered to be allowable.

It is respectfully submitted that claims 18 and 20-24 are patentable over the cited reference for the foregoing reasons.

Fuji, *et al.*

Claims 18, 20, 21, 23 and 24 stand rejected under 35 U.S.C. §102(a) as being anticipated by Fuji, et al. [USP 6,249,489, "Fuji"]. In the Office Action it is asserted that the claimed functional limitations are deemed to be inherent characteristics of the prior art and since the prior art is substantially identical in composition and / or structure. It is further noted that Figure 12 of the reference shows that the domain wall of the medium does not enter the light beam. Applicants respectfully traverse as discussed below as well as respectfully disagreeing with the characterization of what is disclosed and taught in the cited reference.

Applicants claim, claim 18, a magneto-optical recording medium comprising at least a first magnetic layer, a second magnetic layer and a third magnetic layer, which are layered in this order. The first magnetic layer of the medium is formed of a perpendicularly magnetized film having a relatively small wall coercivity and a relatively large wall mobility compared with the third magnetic layer in the vicinity of a predetermined temperature. In addition, the first magnetic layer also is composed such that, when a light beam whose intensity is controlled to be a predetermined intensity for reproducing a signal is emitted onto the magneto-optical recording medium while the light beam being moved relatively with respect to the magneto-optical recording medium, the medium is characterized as having a larger magnetic wall coercivity at a rear part of the light beam spot than a front part of the light beam spot and so as to restrict movement of a domain wall located beyond the light beam spot rear part.

In contrast to the present invention, Fuji discloses (with reference to FIG 12A thereof) a medium that is composed of three (3) magnetic layers; a first magnetic layer 34, a second magnetic layer 35 and a third magnetic layer 36. Fuji also clearly illustrates with reference to Figures 6A,B and the discussion thereto and regarding the first embodiment, that the domain walls 58,59 of the front and rear or back positions both can move in directions D and C respectively due to the heat generated by the beam spot. It is also clear from the discussion in col. 12, lines 33-50 that the mechanism used in Fuji to deal with mixing of signals leaking out of the so-called back region is not the way in which the first magnetic layer is constituted. Rather it is clear that the mechanism chosen in Fuji to deal with this is controlling the length of the record mark in the memory layer so that it is less than a critical value. Fuji explains that for the signal to be read out from the back region, it is necessary that the interfacial domain wall energy accumulated becomes greater than energy necessary for nucleation to the displacement layer. However, by so limiting the length of the record mark in the memory layer so as to be less than a critical length Fuji discloses that the next magnetic domain of reversed magnetization comes before sufficient energy transfer takes place. Fuji further indicates that therefore such a small magnetic domain as described above is transferred to the displacement layer at a position somewhat distant from the boundary of the back region.

The discussion regarding Figs 12A,B and the second embodiment in Fuji also similarly indicates that the mechanism for controlling mixing of signals leaking out from the back region is the technique of controlling of the length of the record mark in the memory layer. See for example col. 11, lines 33-46 and col. 18, lines 14-25.

It is clear form the foregoing that Applicants claim a medium composed of three layers where the first magnetic layer is composed so as to have certain characteristics or functions. It also is clear from the foregoing remarks that the technique used in Fuji to control mixing of signals from the back region is controlling the length of the record mark in the memory region so as to be less than a critical length. Fuji nowhere describes constituting or composing the magnetic layers of the described medium so as to control movement of the domain wall for the rear region.

As such, it can be hardly said that Fuji is substantially identical in composition and structure as is the medium as is set forth in claim 18. As such, it can be hardly said that the medium disclosed in Fuji inherently discloses the claimed limitations as is set forth in claim 18.

As each of claims 20, 21, 23 and 24 depend directly or ultimately from claim 18, it is submitted that at least because of their dependency from a claim considered to be allowable, each of these claims also are considered to be allowable.

It is respectfully submitted that claims 18, 20, 21, 23 and 24 are patentable over the cited reference for the foregoing reasons.

The following additional remarks shall apply to each of the above.

As provided in MPEP-2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Or stated another way, "The identical invention must be shown in as complete detail as is contained in the ... claims. *Richardson v Suziki Motor Co.*, 868 F.2d 1226, 9 USPQ 2d. 1913, 1920 (Fed. Cir. 1989).

Although identify of terminology is not required, the elements must be arranged as required by the claim. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990). The Federal Circuit also has indicated that in deciding the issue of anticipation, the trier of fact must identify the elements of the claims, determine their meaning in light of the specification and prosecution history, and identify *corresponding elements* disclosed in the allegedly anticipating reference (emphasis added, citations in support omitted). *Lindemann Maschinenfabrik GMBM v. American Hoist and Derrick Company et al.*, 730 F. 2d 1452, 221 USPQ 481,485 (Fed. Cir. 1984). It is clear from the foregoing remarks that the above-identified claim is not anticipated by either of the two cited reference(s).

It is respectfully submitted that for the foregoing reasons, claims 18 and 20-24 are is patentable over either of the two cited reference(s). Accordingly, these claims satisfy the requirements of 35 U.S.C. §102 and thus, are considered to be allowable.

35 U.S.C. §103 REJECTIONS

Claim 25 stands rejected under 35 U.S.C. §103 as being unpatentable over the cited art/ combination of references for the reasons provided on pages 9-11 of the above-referenced Office Action. Applicants respectfully traverse as discussed below.

Fuji & Shiratori

Claim 25 stands rejected under 35 U.S.C. §103 as being unpatentable over Fuji view of Shiratori [USP 6,403,205]. Applicants respectfully traverse as discussed below.

Claim 25 depends form claim 1. As indicated above, Fuji does not disclose nor describe the magneto-optical medium as set forth in claim 18. It also is respectfully submitted that Fuji also does not include any teaching or suggestion so as to yield the magneto-optical medium as set forth in claim 18. Further, it is submitted that Fuji also does not describe nor include any teaching, suggestion or offer any motivation for modifying the magneto-optical recording medium disclosed in Fuji so as to yield the magneto-optical recording medium as set forth in claim 18. As such, at least because of its dependency from a claim considered to be allowable, claim 25 also is considered to be allowable.

Applicants also would note that as provided above in the discussion regarding Fuji, this reference describes a mechanism that does not involve the composition of the first magnetic layer of claim 25. Thus, it can be hardly said that one skilled in the art would have been necessarily motivated to combine the alleged teachings of Shiratori with Fuji.

It is respectfully submitted that claim 25 is patentable over the cited combination of references for the foregoing reasons.

Aranti & Shiratori

Claim 25 stands rejected under 35 U.S.C. §103 as being unpatentable over Aranti in view of Shiratori. Applicants respectfully traverse as discussed below.

Claim 25 depends form claim 1. As indicated above, Aranti does not disclose nor describe the magneto-optical medium as set forth in claim 18. It also is respectfully submitted that Aranti also does not include any teaching or suggestion so as to yield the magneto-optical medium as set

forth in claim 18. Further, it is submitted that Aranti also does not describe nor include any teaching, suggestion or offer any motivation for modifying the magneto-optical recording medium disclosed in Fuji so as to yield the magneto-optical recording medium as set forth in claim 18. As such, at least because of its dependency from a claim considered to be allowable, claim 25 also is considered to be allowable.

Applicants also would note that as provided above in the discussion regarding Aranti, this reference describes a medium composed of four magnetic layers and a medium that does not involve the composition of the first magnetic layer of claim 25. Thus, it can be hardly said that one skilled in the art would have been necessarily motivated to combine the alleged teachings of Shiratori with Aranti.

It is respectfully submitted that claim 25 is patentable over the cited combination of references for the foregoing reasons.

The following additional remarks shall apply to each of the above.

As provided in MPEP 2143.01, obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). As provided above, Fuji and Aranti, each alone or in combination with Shiratori, include no such teaching, suggestion or motivation.

Furthermore, and as provided in MPEP 2143.02, a prior art reference can be combined or modified to reject claims as obvious as long as there is a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 19866). Additionally, it also has been held that if the proposed modification or combination would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. Further, and as provided in MPEP-2143, the teaching or suggestion to make the claimed combination and the reasonable suggestion of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As can be seen from the forgoing discussion regarding the disclosures of the cited reference and the admitted prior art, there is no reasonable expectation of success provided in the reference or the admitted prior art. Also, it is clear from the foregoing discussion that the modification suggested by the Examiner would change the principle of operation in connection with use of the magneto-optical recording medium disclosed in either Aranti or Fuji.

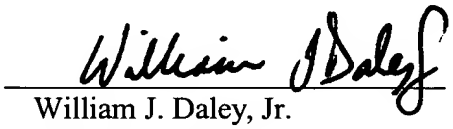
It is respectfully submitted that for the foregoing reasons, claim 25 is patentable over the cited reference(s) and thus satisfies the requirements of 35 U.S.C. §103. As such, this claim is allowable.

It is respectfully submitted that the subject application is in a condition for allowance. Early and favorable action is requested.

Applicants believe that additional fees are not required for consideration of the within Response. However, if for any reason a fee is required, a fee paid is inadequate or credit is owed for any excess fee paid, the Commissioner is hereby authorized and requested to charge Deposit Account No. **04-1105**.

Respectfully submitted,
Edwards & Angell, LLP

Date: December 23, 2003

By: 

William J. Daley, Jr.
(Reg. No. 35,487)
P.O. Box 9169
Boston, MA 02209
(617) 439- 4444